COMPARATIVE ANALYSIS

"Granny - Flat" Vs Lendvay Unit

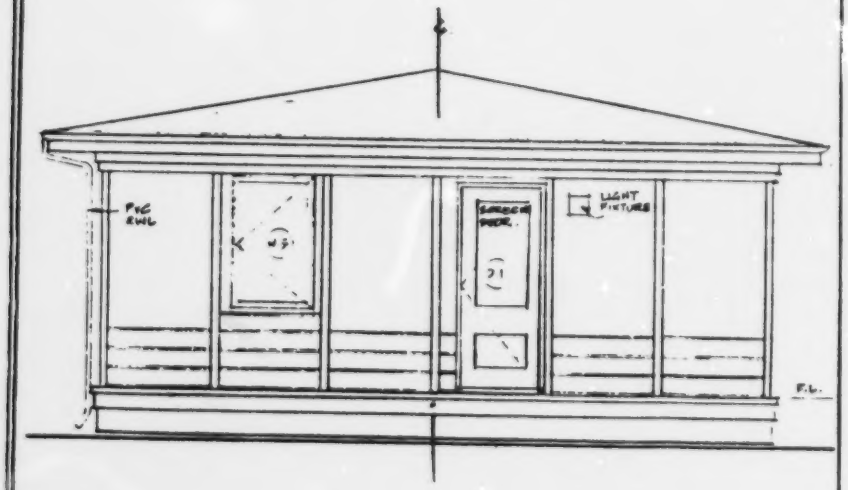
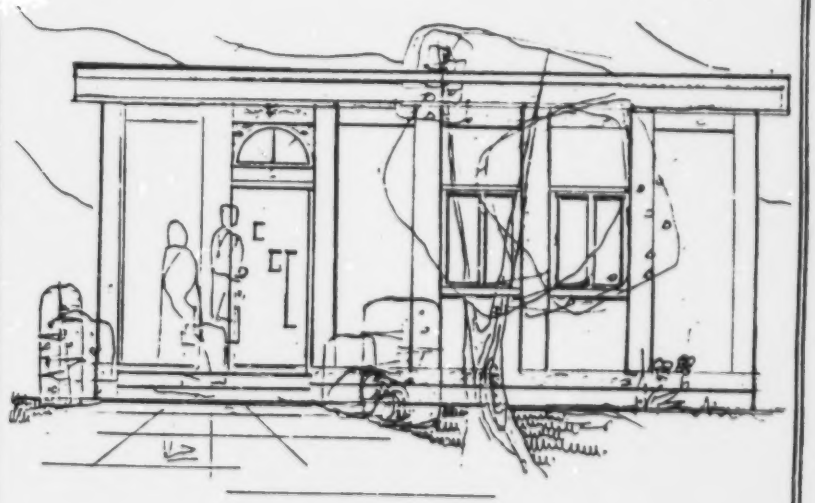
Dated: 19 Jan '87

Arch. Services
Tech. Support Branch

COMPARATIVE ANALYSIS
"GRANNY FLAT" VS " LENDVAY UNIT"

ITEM	GRANNY FLAT	LENDVAY UNIT	COMMENTS
1. Developed by:	Ministry of Housing HREC Unit, 2nd Floor 777 Bay Street Toronto, Ontario M5G 2E5	Istvan Lendvay Assoc., Architects 1262 Don Mills Road Don Mills, Ontario M3B 2W7	• Canadian Product in both cases
2. Type of Housing	Detached, single family, self-contained unit for 1 or 2 persons.	Detached, single family, self-contained unit for 1 or 2 persons.	-
3. Assembly	Wood-prefabricated half housewidth modules joined together at site on pre-prepared foundations.	Wood-prefabricated 1.0 m panels and 178 mm columns site assembled on pre-prepared foundations.	-
4. Handling, transportation, etc.	Handling, transporation and erection of components because of their large size is difficult and expensive.	Lendvay unit components being small can be transported and erected without the aid of heavy construction equipment. Assembling can be achieved 100% manually.	-
5. Siting	On the grounds of existing single-family home.	Would also fit on the grounds of existing single famly home.	-

COMPARATIVE ANALYSIS
"GRANNY FLAT" VS " LENDVAY UNIT"

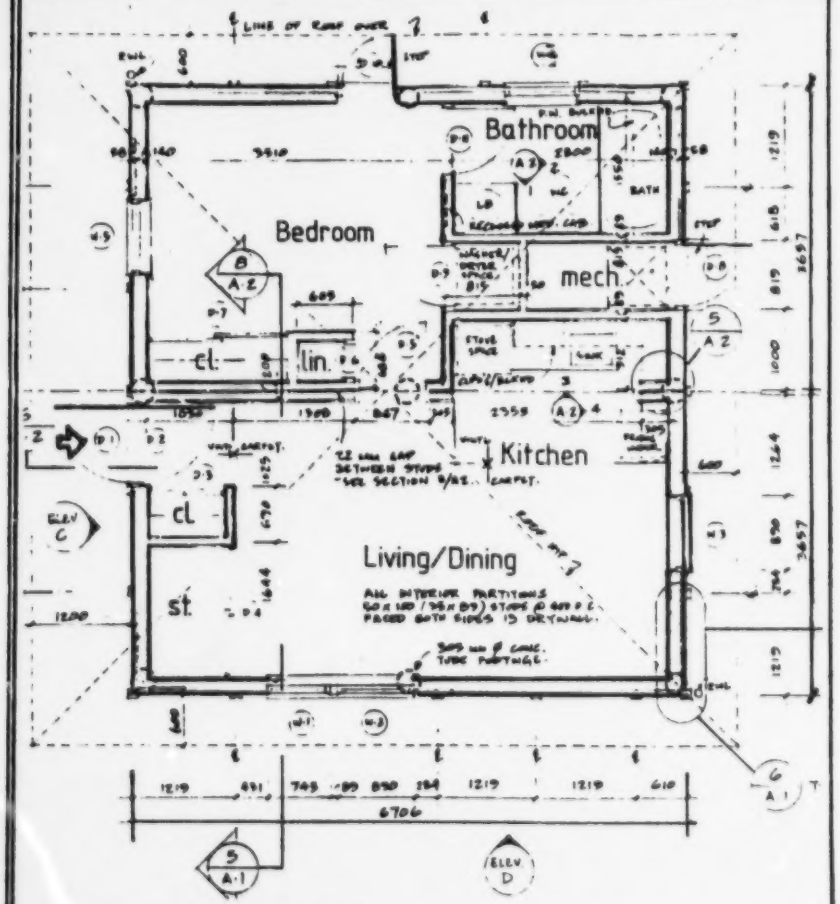
GRANNY FLAT	LENDVAY UNIT
	
FRONT ELEVATION	FRONT ELEVATION

COMPARATIVE ANALYSIS
"GRANNY FLAT" VS " LENDVAY UNIT"

ITEM	GRANNY FLAT	LENDVAY UNIT	COMMENTS
6. Installation	May be temporary, unit can be disassembled.	Installation is more or less permanent. Cannot be easily disassembled.	• Lendvay unit developer suggested that instead of all nails, if screws were used disassembly was possible. (Not considered practical).
7. Size	49.0 m^2 - 1 person unit 62.0 m^2 - 2 person unit	50.52 m^2	• Total area in both unit types is adequate.
8. Design Flexibility	Components once fabricated do not allow change in size and layout.	Components can be assembled in variety of sizes and layouts.	• Once the criteria and design is established, this flexibility does not provide any additional advantage.
9. Rooms .1 Entry	Enclosed vestibule 1.05 m^2 - 1 person unit 3.45 m^2 - 2 person unit Has additional coat closet.	Open porch 2.77 m^2 Does not have a coat closet.	• Enclosed vestibule is desirable in cold climate particularly for elderly occupants. • Coat closet is not required by the Ontario Building Code but is required by CMHC if funding is under the National Housing Act. (NHA).
.2 Combination Living, Dining and kitchen	19.68 m^2 - 1 person unit 26.19 m^2 - 2 person unit Granny Flat has base cabinets with sink, wall cabinets and a separate pantry closet.	15.20 m^2 Lendvay unit kitchen is without any base cabinets, wall cabinets, sink or even roughed-in plumbing.	• Lendvay unit does not meet Ontario Building Code which requires 17.95 m^2 for these areas.

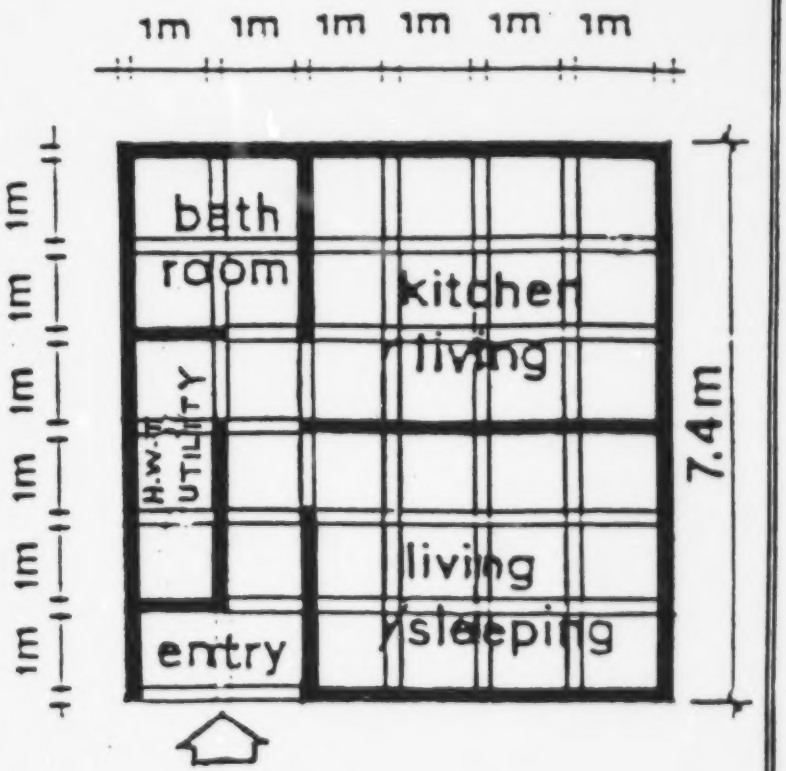
COMPARATIVE ANALYSIS
"GRANNY FLAT" VS " LENDVAY UNIT"

GRANNY FLAT



PLAN - 1 PERSON UNIT

LENDVAY UNIT

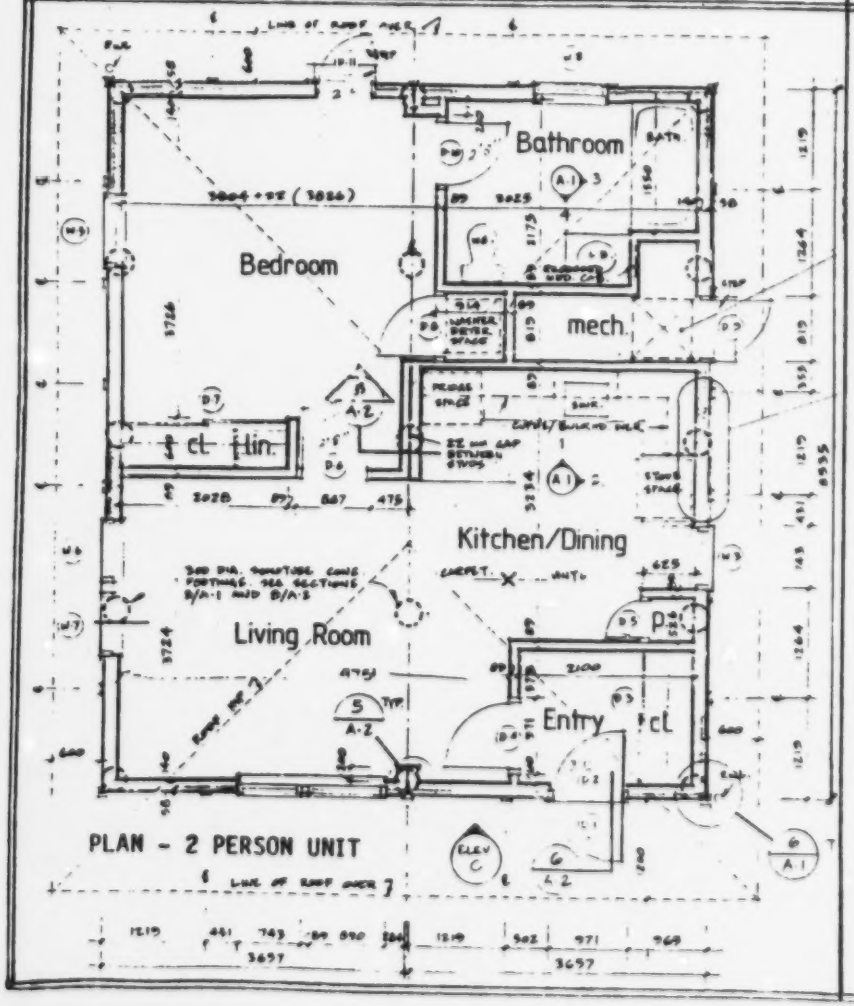
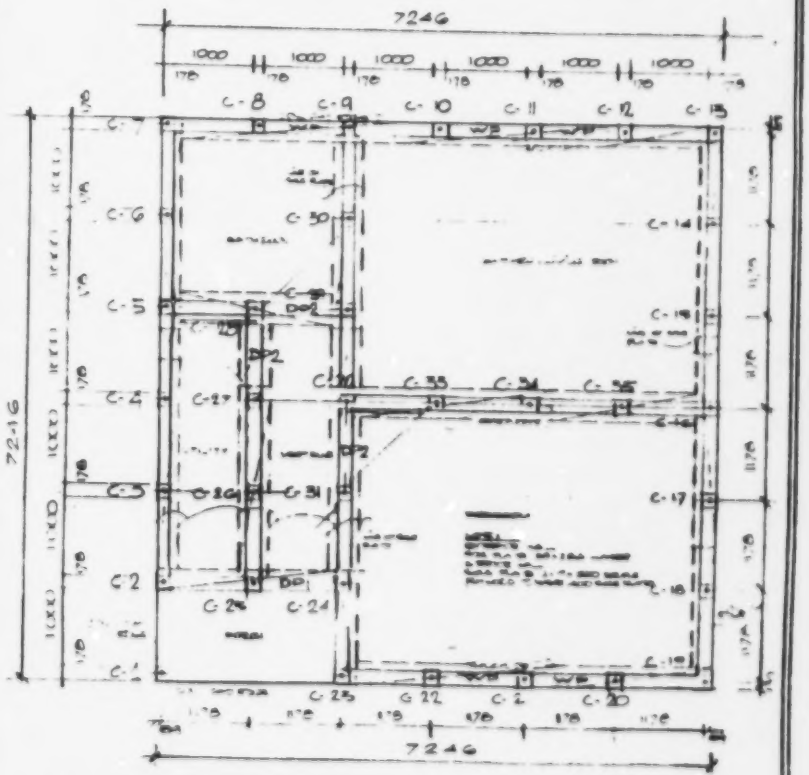


PLAN

COMPARATIVE ANALYSIS
"GRANNY FLAT" VS " LENDVAY UNIT"

ITEM	GRANNY FLAT	LENDVAY UNIT	COMMENTS
9. Rooms (contd)			
.3 Bedroom	9.82 m^2 - 1 person unit 14.25 m^2 - 2 person unit Granny Flat has built-in clothes and linen closets.	15.20 m^2 No clothes closet in the bedroom and no linen closet provided.	• Lendvay unit bedroom is is oversized. • Clothes and linen closets are not a Building Code requirement but are required by CMHC under National Housing Act.
.4 Bathroom	4.34 m^2 - 1 person unit 6.06 m^2 - 2 person unit Bathroom is complete with all fixtures including shower and medicine cabinet.	4.75 m^2 Only space is provided. No fixtures and fitments are included. No roughed-in plumbing is provided.	• Neither 1 person Granny Flat nor Lendvay unit bathroom is suitable for wheelchaired handicapped persons. • 2 person Granny Flat bathroom is suitable for wheelchaired handicapped persons. • Lendvays unit bathroom can be furnished at an extra cost over the base unit price.

COMPARATIVE ANALYSIS
"GRANNY FLAT" VS " LENDVAY UNIT"

GRANNY FLAT	LENDVAY UNIT
	
PLAN - 2 PERSON UNIT	WALL PANELS AND COLUMNS

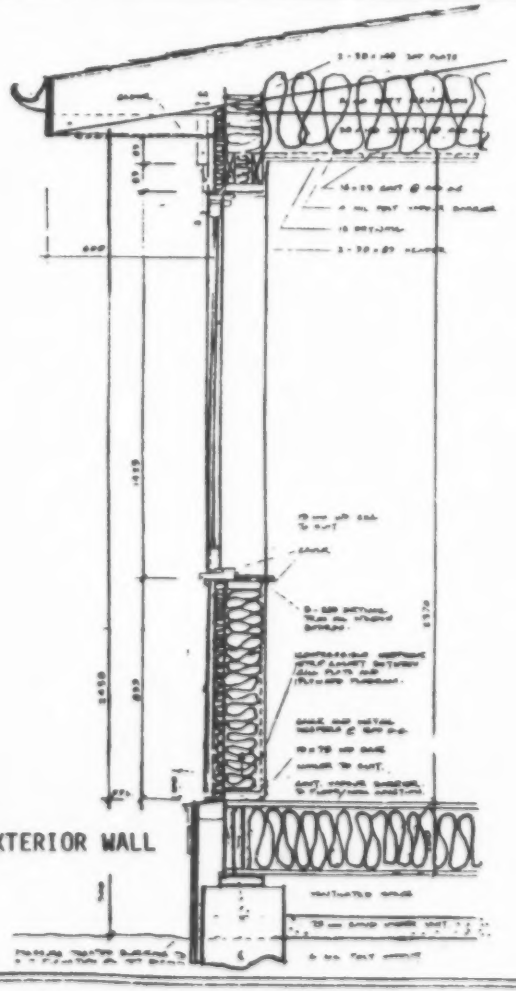
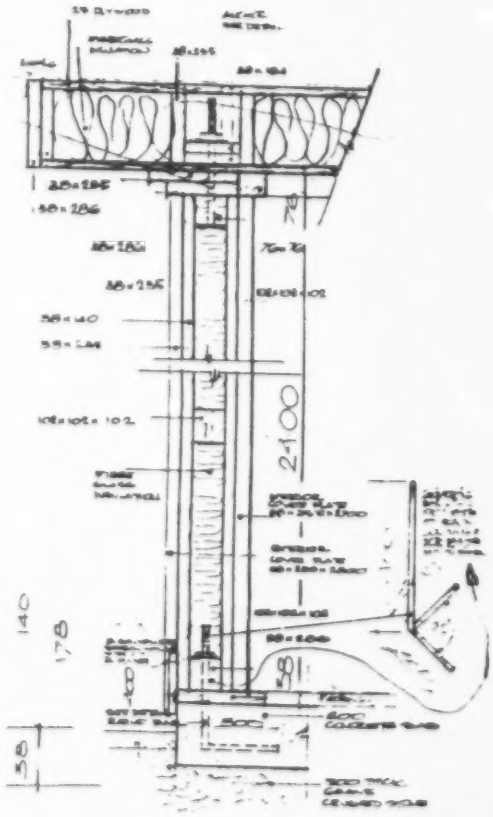
COMPARATIVE ANALYSIS
"GRANNY FLAT" VS " LENDVAY UNIT"

ITEM	GRANNY FLAT	LENDVAY UNIT	COMMENTS
.9 Rooms (contd)			
.5 Utility Room	2.04 m^2 - 1 person unit 2.83 m^2 - 2 person unit	3.44 m^2	-
	Granny Flat Utility rooms are equipped with 182 litre domestic hot water tank, and also accommodate sewage ejector and pump arrangement.	Utility room does not contain hot water supply or waste water disposal arrangement.	• Equipment and connections can be provided in Lendvay's unit at an extra cost.
	Washer and dryer space is separated and enclosed in a closet.	No roughed-in electrical and mechanical hooks-ups for laundry facility are provided.	"
.6 Storage Room	1.56 m^2 - 1 person unit none in 2 person unit	None	• Storage room is required under CMHC regulations but not by OBC.
10. Layout	Satisfactory. Both 1 and 2 person Granny Flats have laundry and bathroom off the bedroom.	Satisfactory. Access to bathroom is from a hallway. Laundry space not is provided.	• Access to such rooms from a common hallway is preferred.
	Kitchen area in Granny Flats is exposed to the living area.	Kitchen is part of the Living, Dining room	• Not desirable in both cases

COMPARATIVE ANALYSIS
"GRANNY FLAT" VS " LENDVAY UNIT"

ITEM	GRANNY FLAT	LENDVAY UNIT	COMMENTS
11. Doors	Flush panel, hollow core with metal frames.	Flush panel, hollow core with wood frame.	-
	Main entrance exterior door is equipped with a storm door.	Storm door is not provided.	• Storm door is the requirement of Ontario Building Code.
12. Windows	Double glazed wood casement windows stained to match exterior cedar panels.	Double glazed steel casement in wood frame.	• Glazing area in Lendvay unit living and dining room is minimal.
13. Means of Egress	Through main entrance and through additional door from the bedroom to exterior.	Through main entrance only.	• Exiting in case of fire-emergency is safer in Granny Flats.
14. Fire Protection	Combustible construction materials throughout.	Combustible construction materials throughout.	• Both meet Ontario Building Code requirements. • Lendvay intends to treat all components with fire-retardant chemicals.
15. Footings, Foundations and Anchoring	305 mm diameter concrete tube piers under perimeter walls and at interior support locations (eight piers for 1 person unit and fifteen for 2 persons unit) with anchors to secure the superstructure.	200 mm concrete slab under entire unit on 500 mm thick gravel or crushed stone with anchors under perimeter and interior walls to be bolted to the columns.	• Granny Flat foundation design with footings below frost level is preferred as compared to floating slabs design in Lendvay unit.

COMPARATIVE ANALYSIS
"GRANNY FLAT" VS " LENDVAY UNIT"

GRANNY FLAT	LENDVAY UNIT
 SECTION - EXTERIOR WALL	 SECTION - EXTERIOR WALL

COMPARATIVE ANALYSIS
"GRANNY FLAT" VS " LENDVAY UNIT"

ITEM	GRANNY FLAT	LENDVAY UNIT	COMMENTS
16. Ground Floor Construction	19 mm plywood nailed and glued to the top and bottom of 38 x 242 joists at 400 mm o.c. enclosing RSI = 6.0 batt insulation. Sand covered crawl space underneath.	38 mm board insulation on concrete slab on ground with 500 mm gravel base. Total RSI = 2.0.	• Granny Flat floor with higher RSI value provides more comfortable living in winter months.
17. Exterior Wall Construction	15.5 mm rough sawn fir plywood on 38 mm "glasclad" insulation over 38 x 140 wood studs at 400 mm o.c., R = 20 glass fibre batt insulation between studs, vapour barrier and drywall. (Insulation RSI = 4.7)	Prefabricated 1.0 m long wall, 200 mm thick panels nailed to 178 mm square columns. Wall units are fabricated with 2 - 38 x 140 spruce 462 mm on centres covered with 19 mm exterior grade plywood on both sides. Space in between is packed with fibre glass insulation. (Insulation RSI = 3.52)	• Lendvays wall units are structurally stronger. • Granny Flat exterior walls are 35% more energy efficient.
18. Interior Partitions	13 mm drywall on 38 x 89 wood studs at 400 mm on centre.	Same as exterior walls.	• Insulated partitions in Lendvays unit provide better sound isolation, although no specific transmission rating is set by OBC for interior partition.

COMPARATIVE ANALYSIS
"GRANNY FLAT" VS " LENDVAY UNIT"

ITEM	GRANNY FLAT	LENDVAY UNIT	COMMENTS
19. Roof Construction	Hip roof with 1:6 slope consisting of 10.25 kg/m^2 asphalt shingles, 16 mm ext. grade plywood sheathing, 38 x 192 rafters at 400 mm o.c. with RSI = 7.0 fibre glass batt insulation in the roof space.	Flat roof consisting of seamless rubber membrane roofing on prefabricated panels consisting of 2 - 38 x 235 lumber at 589 mm on centres with 19 mm exterior grade plywood on both sides. Cross-bracing is 1 - 38 x 235 at 830 mm on centre. Space in between is fully packed with RSI = 6.0 fibre glass batt insulation. Exposed edge lumber is pressure treated. Roof panels are anchored to the columns at both ends.	• Flat wood roofs are not desirable for canadian weather conditions. • Granny Flat roofs provide 16% higher insulation value. • With ventilated roof space in Granny Flat, condensation problems & wood rot of the interior members is not likely as in non-ventilated roof slab.
20. Interior Wall and Ceiling Finishes	13 mm drywall throughout - painted ceramic tile dado around bathtub.	plywood throughout - unpainted	-
21. Flooring	Sheet vinyl in entry, kitchen and bathroom, carpet in living, dining and bedroom areas.	Not included	• Seamless linoleum over plywood is suggested by I. Lendvay.
22. Fixtures Accessories	Includes all items such as grab bars (including those required for handicapped persons) towel rods, mirror closet shelves, curtain tracks, clothes hanging rods, etc. complete to livable conditions.	No fixtures and accessories are included.	-

COMPARATIVE ANALYSIS
"GRANNY FLAT" VS " LENDVAY UNIT"

ITEM	GRANNY FLAT		LENDVAY UNIT	COMMENTS
23. Electrical and Mechanical Work	Unit is designed to accept incoming services and includes all unexposed wiring, plumbing & ventilation ducts. All plumbing & lighting fixtures, smoke detectors, baseboard heaters, exhaust and supply air fans are included.		None of items mentioned under Granny Flat are included. When installed electrical wiring and plumbing will be surface mounted.	• Exposed electrical & mechanical connections not an acceptable practice for the habitable areas.
24. Cost Comparison	1 Person Unit	2 Person Unit		
.1 Shop price unit complete including electrical and mechanical work & fixtures and including delivery.	$33,000	$37,000	$24,129 (If electrical and mechanical work and fixtures were to be included)	• Please note that Lendvay unit price does not include: .1 Kitchen base and wall cabinet .2 Closets .3 Bathroom accessories .4 Storm door .5 Painting and .6 Floor finish
.2 Foundations & services hook-up	$ 5,000	$ 6,000	$ 5,000	
.3 Erection	$ 4,000	$ 4,000	$ 8,000	
.4 Total	$42,000	$47,000	$37,129	